

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Norihiro Kimoto et al. Art Unit : Unknown
Serial No. : Examiner : Unknown
Filed : Herewith
Title : NOVEL CARBONYL REDUCTASE, METHOD FOR PRODUCING SAID
 ENZYME, DNA ENCODING SAID ENZYME, AND METHOD FOR
 PRODUCING ALCOHOL USING SAID ENZYME

Commissioner for Patents
Washington, D.C. 20231

PRELIMINARY AMENDMENT

Prior to examination, please amend the application as follows:

In the specification:

Please add the following paragraph beginning at page 1, line 3 with the following paragraph:

-- This application is a divisional of U.S. Patent Application No. 09/468,738, filed December 21, 1999, which claims priority from Japanese Patent Application Nos. 10/363130, filed December 21, 1998, and 11/171160, filed June 17, 1999. --

In the claims:

Cancel claims 1-37.

Add claim 38.

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Usa G. Gray

-- 38. A purified carbonyl reductase having the following physicochemical properties:

reduces 4-haloacetoacetate ester to produce (S)-4-halo-3 hydroxybutyrate ester using reduced β -nicotinamide adenine dinucleotide as an electron donor;

has high reductase activity for 4-chloroacetoacetate ester but does not substantially dehydrogenate any optical isomers of 4-halo-3-hydroxybutyrate ester;

shows higher enzymatic activity when used with reduced β -nicotinamide adenine dinucleotide as an electron donor than when used with reduced β -nicotinamide adenine dinucleotide phosphate;

has an optimal pH of 5.0 to 6.0;

does not substantially dehydrogenate isopropanol and does not reduce acetoacetate; and

has a molecular weight of about 32,000 daltons when determined by sodium dodecylsulfate-polyacrylamide gel electrophoresis.--

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Attorney's Docket No.: 06501-050002

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REMARKS

Claim 38 is pending in this application, claims 1-37 having been cancelled with this amendment. New claim 38 is supported by originally filed claims 1 and 2. No new matter has been added. Please apply any other charges or credits to Deposit Account No. 06-1050.

Respectfully submitted,

Date: 5-14-01

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